

AMENDMENTS TO THE SPECIFICATION:

Please insert the following after the title:

CROSS REFERENCE TO RELATED APPLICATION

This application is a divisional of U.S. Application Serial No. 09/626,181, filed July 27, 2000.

Please amend the paragraph bridging pages 1 and 2, beginning at page 1, line 14:

Figs. 1A and 1B show a first embodiment of the prior art, that is, schematic views of a channel etch type TFT of an active matrix wafer in a liquid crystal display. Fig. 1A shows a plan view of one picture element, Fig. 1B shows a section of a region of the TFT along the cut line [[B-B]] I-I of Fig. 1A, and Figs. 2A and 2B show sections of a terminal portion. In Fig. 1B, a gate electrode 42a is formed on a transparent insulated wafer 41 and thereon, a gate insulating film 43 is formed to cover them. Further thereon, a semiconductor layer 44 is formed so as to overlap the gate electrode 42a, and a source electrode 46a and drain electrode 47 distant on the central part of the semiconductor layer is connected to the semiconductor layer 44 via an ohmic contact layer 45. The ohmic contact layer between the source electrode 46a and drain electrode 47 is removed by etching and the ohmic contact layer 45 is formed only between the source electrode 46a, the drain electrode 47 and semiconductor layer 44. Further, a passivation film 48 is formed so as to cover them. On the passivation film 48, a transparent conductive film to be a picture element electrode 49 is connected to the drain electrode 47 via a contact through hole 51 penetrating through the passivation film 48. A switching signal is inputted to the TFT through a gate wiring 42b and the source electrode 42a, and [[a]] an image signal is inputted through a source wiring 46b and the source electrode [[46b]] 46a, whereby a picture element electrode 49 is charged.

Please amend the paragraph bridging pages 10 and 11, beginning at page 10, line

24:

Then, as shown in Fig. 12C, a dispersed pigment type photosensitive red resist 113a is coated to be approximately 1.2 μm in thickness by spin coating and a red filter 113a' is formed into a predetermined pattern by a photolithography step. At this time, alignment between a mask 121 and active matrix wafer 110c for forming a red filter 113a' is performed as shown in Fig. 14C. For alignment marks, the drain layer alignment marks 123b are used. Since the red resist 113a hardly absorbs an exposure alignment laser (He-Ne) used for reading the alignment marks, the alignment marks can be read by means of a light reflected ~~[[form]]~~ from the drain layer alignment marks 123b regardless of the film thickness of the red resist 113a.

Please amend the paragraph bridging pages 20 and 21, beginning at page 20, line

21:

(1) First ~~feature~~ embodiment of the present invention

According to a first ~~feature~~ embodiment of the present invention, an active matrix wafer in which color filters are formed on a TFT wafer by using color resists and a resin black matrix. A red filter formation is first performed when the color filters and resin black matrix are formed in order and the red filter is left on alignment marks provided on the active matrix wafer as an isolated pattern so as to cover the alignment marks.

Please amend the paragraph beginning at page 21, line 2:

(2) Second ~~feature~~ embodiment of the invention

According to a second ~~feature~~ embodiment of the present invention, an active matrix wafer in which color filters are formed on a TFT wafer by means of color resists and a resin black matrix. A red filter formation is first performed when the color filters and resin black

matrix are formed in order and alignment marks are formed by a red filter layer when a red filter is formed.

Paragraph beginning at page 21, line 10:

(3) Third ~~feature~~ embodiment of the invention

According to a third ~~feature~~ embodiment of the present invention, an active matrix wafer in which color filters are formed on a TFT wafer by means of color resists and a resin black matrix. Unevenness is provided under the alignment marks used in the exposure step to form the color filters and resin black matrix.

Paragraph bridging pages 25 and 26, beginning at page 25, line 13:

Figs. [[19]] 19A and 19B show a ~~composition of a composite~~ picture element portion [[in]] separately for the prevention of unclear relationships due to overlapping, wherein a plan view of the electrodes and wiring, etc. is shown as Fig. 19A while a plan view showing the positional relationship between only the picture element, color filter, black matrixes, and contact through hole is shown as Fig. 19B. Under each picture element electrode 9, a corresponding color filter 13 is formed with an overcoat layer therebetween. On a passivation film on a gate wiring 2b, a black matrix 15' is formed and which also serves to shade a TFT. The black matrix is not formed at the periphery of a contact through hole 11. The picture element electrode 9 is connected to the drain electrode 7 via an aperture portion of an overcoat layer 14. Under the black matrix 15' and color filter 13, a plurality of gate wiring 2b and a plurality of source wiring 6b are provided so as to be perpendicular to each other and at the intersections of the gate wiring 2a and source wiring 6b, TFTs are provided. As regards the TFTs, to gate electrodes 2a, the gate wiring 2b is connected, to source electrode 6a, the source wiring 6b is connected, and to the drain electrode 7, the picture element electrode 9 is connected via the contact through hole 11 which

goes through the overcoat layer 14 and passivation film 8. To the TFT, a switching signal is inputted through the gate wiring 2b and gate electrode 2a, and an image signal is inputted through the source wiring 6b and source electrode 6a, and whereby the picture element electrode 9 is charged.

Please amend the paragraph bridging pages 26 and 27, beginning at page 26, line 13:

Fig. 20A is a section showing the wafer cut along the cut line [[A-A]] II-II shown in the plan view of Fig. 19A. The gate electrode 2a is provided on the transparent wafer 1 and the gate insulating film 3 is formed so as to cover them. Thereon, a semiconductor layer 4 is formed so as to overlap the gate electrode 2a and the source electrode 6a and drain electrode 7, which are distant on the central part of the semiconductor layer 4, are connected to the semiconductor layer 4 via an ohmic contact layer 5, respectively. The ohmic contact layer between the source electrode 6a and drain electrode 7 is removed by etching, and the ohmic contact layer 5 is provided only between the source electrode 6a, drain electrode 7, and semiconductor layer 4. Further thereon including the channel portion where the ohmic contact layer 5 is removed by etching, the passivation film is provided so as to cover them. Such a TFT is generally known as a channel etch type TFT. In such a case where the TFT is used as a switching element, the drain electrode 7 serves as a drawing-out electrode to be connected to the picture element electrode 9, and the drain electrode 7 and picture element electrode 9 are connected through the contact through hole 11 provided through the overcoat layer 14 and passivation film 8. On the passivation film 8, color filters 13 comprising color layers of R, G and B, respectively, are provided at a part corresponding to the picture element display area, however, the color filters 13 are not formed at the periphery of the contact through hole 11 and the color filters 13 are

provided with an aperture in an area including the contact through hole 11. Moreover, the aperture is provided in the color filter layer in Fig. 19B and Fig. 20A, however, the aperture may be provided in the black matrix layer or the aperture may be provided so that one side thereof are the color filters and the other side is the black matrix ~~when being~~ as shown in section.

Please amend the paragraph beginning at page 38, line 9:

Then, as shown in Fig. 29B, a negative photo-curing color resist, in which a red pigment is dispersed in an acrylic resin, is coated on the wafer by spin coating. The spin speed is adjusted so that the film thickness becomes approximately 1.2 μm . Then, prebaking is performed at 80°C for two minutes on a hot plate, after exposure, development is performed with a TMAH (tetramethyl ammonium hydroxide) solution, and a red filter 13a is formed on a corresponding part. In the exposure step of ~~[[thins]]~~ this red filter 13a, since the red filter 13a layer allows an exposure alignment laser to permeate adequately, the drain layer alignment marks 23b underlying the red filter 13a layer is readily read.

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